DOCUMENT RESUME

ED 295 707 JC 880 275

AUTHOR Cohen, Arthur M.
TITLE A Preliminary Effort at Producing Statements on What Works in Community Colleges.
PUB DATE Jun 88
NOTE 63p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *College Administration; *College Faculty; College Presidents; *Community Colleges; Governing Boards; *Outcomes of Education; Research Utilization; *School Effectiveness; School Holding Power; Student Personnel Services; Student Projects; Two Year Colleges
IDENTIFIERS University of California Los Angeles

ABSTRACT

In 1986, the U.S. Department of Education published the immensely popular "What Works: Research about Teaching and Learning," a compendium of research summaries pertinent to the home, classroom, and school. In 1988, graduate seminar students at the University of California, Los Angeles, attempted to develop a series of "What Works" statements for the community college based on the ERIC database and presented their findings in a public forum with four practitioners giving their reactions. This report explains the rationale for the seminar project, explains the method for researching and writing a "What Works" statement, and presents the draft "What Works" statements developed by the students. The statements, each presenting a research finding, an evaluation or comment, and references, cover the following topics: (1) faculty research, development, and morale; (2) orientation, academic warning systems, placement testing, and other student services; (3) student recruitment, retention, satisfaction, and outcomes; (4) college presidents and trustees, and other aspects of college administration; and (5) curriculum and instruction. (MDB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED295707

A Preliminary Effort at Producing Statements on What Works in Community Colleges

Arthur M. Cohen
June 1988

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

A. Cohen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

JC 880 275

A Preliminary Effort at Producing Statements on What Works in Community Colleges

Arthur M. Cohen
June 1988

In 1986 the US Department of Education published What Works: Research About Teaching and Learning. Immensely popular, the volume was followed in 1987 by an expanded second edition. The format of both editions was the same: single page statements, each including a Research Finding, Comment, and References. The intention was to summarize research pertinent to home, classroom, and school practices effective in stimulating student learning.

The concept of relating educational research to practice in a form appealing to lay people and practitioners suggested a similar effort that would be directed toward community college staff members. The research on community colleges is available through ERIC and numerous journal articles and books but, in common with staff in other levels of schooling, the faculty and administrators tend not to use the literature as a guide to their practice. A What Works in Community Colleges could be useful for them.

The idea of such a product met an enthusiastic reception when it was presented to the ERIC Clearinghouse for Junior Colleges advisory board at the annual convention of the American Association of Community and Junior Colleges on April 25, 1988. A spring quarter, 1988, seminar on the community college, guided by professors Arthur M. Cohen and Leslie Koltai of the UCLA Graduate School of Education, was devoted to drafting the

collection. The seminar participants were students in the UCLA Community College Studies Program, a sector within the Higher Education, Work, and Adult Development Division of GSE. The intention was to try the procedure of using the literature to prepare What Works statements in preliminary form and to present the statements to practitioners in a public forum as a way of estimating their usability.

The forum was convened on May 18, 1988, with four practitioners reacting to the presentations by the seminar group. The practitioners (a community college district chancellor, a president, the head of a statewide association, and the head of a college faculty senate) reacted from their own perspective, questioning the research when they disagreed with the statements but, more often, acknowledging that the literature revealed examples of best practice. The exercise demonstrated the viability of the procedure as applied to the community college literature and served as an apposite demonstration of the importance of relating research and practice: The former without the latter is irrelevant; the latter without the former is vulnerable.

Following are announcements of the seminar and the public forum, a press release announcing the project, a set of literature review specifications, and copies of the draft statements that were presented.

GRADUATE SCHOOL OF EDUCATION
HIGHER EDUCATION, WORK, and ADULT DEVELOPMENT DIVISION
COMMUNITY COLLEGE STUDIES PROGRAM

ANNOUNCE

WHAT

WORKS

IN THE

COMMUNITY COLLEGES?

1988 SPRING QUARTER SEMINAR

ED462 - WEDNESDAY 9:00-1:00

MOORE 202

Using the recent books, journals, and ERIC documents participants will prepare short statements on demonstrable effects of policies and practices concerning management, teaching, student progress, and college environment. The papers will be presented in an open forum and then prepared for national distribution.

FOR FURTHER INFORMATION, CALL PROFESSOR A. COHEN, 58337 OR PROFESSOR L. KOLTAI, 52531.

UCLA

GRADUATE SCHOOL OF EDUCATION

HIGHER EDUCATION, WORK, and ADULT DEVELOPMENT DIVISION

COMMUNITY COLLEGE STUDIES PROGRAM

PRESENT

WHAT WORKS IN THE COMMUNITY COLLEGE?

An Invitational Seminar

Wednesday, May 18, 10:00 - 1:00

Moore Hall 346

Using the recent books, journals, and ERIC documents participants enrolled in the Community College Studies Program have drafted short statements on demonstrable effects of policies and practices concerning management, teaching, and student progress. The statements will be presented in an open seminar. Reactors include:

Linda Thor, President, West Los Angeles College

Patricia Siever, President, California Association of Community Colleges

Mike McHargue, Chair, State Academic Senate Staff Development Committee

John Carhart, Chancellor, Contra Costa Community College District

For further information, call: Professor Arthur M. Cohen - 825-8337
Professor Leslie Koltai - 206-8078

UCLA Graduate Students Present Findings to Community College Officials

Where community college class size is kept at 15, better student learning and increased retention occurs.

This and fifteen other research findings concerning community college education were presented to a distinguished panel of California community college administrators and guests on Wednesday, May 18, 1988, at UCLA. The presentation was part of the Graduate School of Education, Spring Quarter seminar entitled, "What Works in the Community College?" The invited panel and 30 guests reacted to the class research which was based on detailed analysis of numerous studies describing the community colleges of America.

The seminar's reactor panel consisted of Linda Thor, President of West Los Angeles College; Patricia Siever, President of the California Association of Community Colleges; Mike McHargue, Chair of the State Academic Senate Staff Development Committee; and John Carhart, Chancellor of Contra Costa Community College District. This panel of on community college practitioners critiqued the student presentations in an informal atmosphere designed to compare the research findings to the to the practical experiences of the panel.

The presentation was moderated by class co-instructors Professors Arthur M. Cohen and Leslie Koltai. Professor Cohen is the director of the ERIC Clearinghouse on Community Colleges (ERIC is a repository for information on community and junior colleges). He is also the director of the Center for the Study of Community Colleges as well as a professor in the UCLA Graduate School of Education. Professor Koltai is the former 15 year Chancellor of the Los Angeles Community College District. This multi campus district is the largest community college district in the nation.

Using recent books, journals, and ERIC documents, participants

enrolled in the Community College Studies Program drafted short statements on demonstrable effects of policies and practices concerning management, teaching, and student progress. Each presentation consisted of reading a short statement of fact, a short explanation, and appropriate references. Then each panel member was given the opportunity to respond and to ask questions. The graduate students who presented included Debra Banks, Cao Hong, Gary Railsback, Polly Stewart, Carmelita Thomas, Francisco Trueba, Patricia Wilson, and Diana Wu.

A booklet to be distributed by ERIC will incorporate the findings researched by the students. It is modeled on a previous booklet published by the U.S. Department of Education in 1987, titled "What Works: Research About Teaching and Learning" and is aimed at PRACTITIONERS in the community college field.

For further information concerning the Community College Studies Program or the booklet in progress, contact Arthur M. Cohen (213) 825-8337 or Leslie Koltai (213) 206-8078.

Method for Researching and Writing a What Works Statement

I. SELECTING A TOPIC

A. The major topics are:

Student Services
Curriculum
Enrollment Management
Administration
College Outcomes
Organization/Governance
Faculty
Finances
Instruction and Instructional Support Services
Community Services

A preliminary review of each of these topics should be made by reading the appropriate chapter in Key Resources on Community Colleges (Cohen, Palmer, and Zwemer, 1986), the major bibliographic volume in the field. The sixty topical volumes in the New Directions for Community Colleges series provide another basic initial resource.

B. After selecting your major area of study, select a minor topic within that area, for example, if you're interested in Student Services, you might select Academic Advising, or Orientation or transfer programs. Let's say you select transfer programs.

C. Consult the "Rotated Display of Descriptors" in the "Thesaurus of ERIC Descriptors" (yellow book). This will help you come up with "descriptors' related to the general topic of transfer. If you look up transfer in this "Rotated display ..." you'll see:

"College Transfer students"
"Transfer programs"

D. Consult the "Thesaurus of ERIC Descriptors" for suptopics you'll see under "Transfer" these descriptors:

Student Transfers, College Transfer students, Transfer policies, etc.

E. If none of the above methods help you narrow or describe a topic, consult a copy of CIJE under the "Junior College" section. By looking through the recent abstracts in junior colleges you may be able to find a topic that interests you.

2. SEARCHING FOR RESEARCH MATERIALS

A. Use "ERIC CD ROM" in Ed/Psych library to get a list of the articles or abstracts about your topic.

NOTE: The CD ROM is not available during all the hours the library is open. Its hours are: Mon-Thurs 9am-9pm; Friday 9am-5pm; Saturday and Sunday 1pm to 5pm. Print a copy of the abstracts that pertain to your research.

B. Consult with the ERIC staff for further materials that were not contained in your ERIC CD ROM search.

C. Peruse the documents in the Ed/Psych Library or ERIC. Remember the ERIC Clearinghouse on Junior Colleges has an original copy of all abstracts with a "JC" heading. These are filed under the JC #. If you find the article to helpful make a xerox copy and keep a separate file folder for each of the topics you're researching.

NOTE: THE ORIGINAL COPIES OF ERIC DOCUMENTS ARE NOT TO LEAVE THE OFFICE

3. WRITING THE SUMMARY ARTICLE

A. Read the documents that you have gathered on your topic to determine if there is one or more research finding. You may find these research results inductively, that is after reading the materials you come to the conclusion; or deductively, where you begin with a "what works" and search for evidence. For some topics with numerous sources you will undoubtedly find more than one finding. While you are reading the documents take notes that summarize the finding(s) that you are most interested in and that has considerable evidence. For example, if you're reading about the topic of "New student orientation" you may find results that state GPA, retention and other variables increased after attendance at an orientation session. You may also find evidence of negative correlation between certain orientation activities and GPA or retention. This would not be your major finding as the purpose of this paper is "What works," not what doesn't work. You can include this as a qualifier however; for example you might find that required attendance at a year-long orientation program at community colleges led to a lower retention rate than the control group that didn't participate. This could be worded as a warning that certain limitations might be more effective.

B. Define the research finding as briefly as possible (2-3 line sentence). Note the examples in the "What works" book on teaching and learning.

C. Summarize the descriptions by describing the program in general terms, the research that evaluated this program and the results. It is not necessary to describe specifics such as the number of students studied or the specific campus but only the general methods and results. As you're

reading the various documents take notes that generally describe or demonstrate this program and its effectiveness.

D. Bibliography: At this point while you're working on rough drafts include both the ERIC Document ED and JC numbers. We'll use the ED # for final printing but while in process we'll access all JC documents with this number.

I. FACULTY

RESEARCH FINDING: Faculty Development enhances instructional quality.

Comments: Faculty development is a purposeful attempt to improve instructional skills as well as allowing for professional and personal growth to occur. It is seen as a vehicle by which faculty can expand their subject knowledge, upgrade their skills and/or retrain for a new field.

Activities most frequently preferred by faculty are:
* Developmental leave for advanced graduate study or for working on new instructional technology.
* Attendance at professional or discipline related meetings or conventions.
* Release time for instructional development, such as designing new curriculum.

Building a faculty development program at a community college requires a financial commitment by administration and a careful assessment of faculty and curricular needs. Ongoing funding should be recognized through the college's budgetary process for establishing such a program. And a major effort must be made to parallel faculty needs with the college's program goals. In this sense, faculty development activities must be coordinated with curriculum offerings and development. Finally, the faculty program should be evaluated on a yearly basis for its effectiveness and how it contributes to curriculum and the overall college's goals.

References:

Caffey, D.L., (1979) *Full-time faculty on Faculty Development: Their Perceptions of What is and What should be,"* Community/Junior College Research Quarterly. 3:311-323.

Case, C.H., (1976) *Professional Staff Development*. Community College Press.

Hammons, J., (1974) *Proceedings: The Conference on Questions and Issues in Planning Community College Staff Development Programs.* (ED 111 462).

O'Banion, T., (1978) *Organizing Staff Development Programs that Work.* Washington, D.C.: American Association of Community and Junior Colleges.

Peterson, Gary, (1975) *Staff Development: Mini Models for College Implementation. (ED 112 958)*

RESEARCH FINDING: Business/Industry programs connect the community college with the community and provide vehicles for faculty research and retraining.

COMMENTS: Community Colleges involved in business/industry programs have benefitted greatly for the following reasons.

* A Vehicle for faculty enrichment and upgrading of the curriculum. Faculty that are involved in these programs not only felt that their experience in industry updated their skills and knowledge, but also assisted them in implementing new technological views and approaches in their courses.

* A Vehicle for faculty retraining: Some community colleges have developed exchange models. Selected faculty are assigned to industry for six months to a year and learned new skills while they were replaced at the college with industry personnel. At the conclusion of the training period, faculty returning to their colleges began new programs, or were placed in existing ones to upgrade the curriculum.

* A Vehicle for faculty research and consulting: Many colleges have used their business/industry programs as avenues for involving faculty in research projects. Stipends provided by the college or industry have enabled faculty to become involved in research at a local industrial or business site. Using these linkages, faculty have been able to negotiate consultant contracts with companies to work periodically on research projects.

Finally, business/industry relations with colleges have not only been advantageous for vocational faculty but also for liberal arts faculty. English instructors have assisted in technical writing projects, math instructors in research statistics, and sociology instructors in management planning. Conclusively, such programs have helped community colleges meet the demand for faculty with state-of-the-art knowledge in vocational and academic areas.

REFERENCES:

Alfred, R.L., and Nash, N.S., (1983) *Faculty Retraining: A Strategic Response to Changing Resources and Technology.* Community College Review. (ED 290 223)

Bridge, P.G. (1980) *Externships: Two Way Street* Community and Junior College Journal.

Doty, C.R. and Cappelle, F., (1982) *Technical Updating in Community Colleges.* Journal of Studies in Technical Careers.

Hill, J.P., (1985) *Funds for Excellence: A College Faculty/Industry Partnership.* Community College Review. (ED 253 281)

Parsons, M.H. (1983) *Catching Up: Faculty Technological Upgrade Through Return to Industry.* Atlantic City, NJ: The New Jersey Consortium on the Community College. (ED 231 451)

Rinehart, R.L., (1982) *Industry-College Cooperation: New Components, Barriers and Strategies.* Washington, D.C., American Association of Community and Junior Colleges Convention.

Research Finding: High morale in faculty is fostered by a sense of trust an sharing in decision making.

Comments: Community college faculty that enjoy their profession as instructors, do so because they are stimulated by the challenge of teaching, enjoy the personal time spent with students, and are firmly committed to the profession of teaching.

In cases where the college's climate supports faculty as professional through developmental programs and scholarship and emphasizes a sense of colleagueship between faculty and administration, there is usually found a high level of faculty morale. A Combination of these factors allows individual members to build on their own strengths and excellent teaching in the classroom.

The process which promotes and enhances high faculty morale is participatory governance or shared governance. Faculty at high-morale colleges perceive the decision-making climate to be more participatory than faculty at low-morale colleges. Consequently, the process of shared governance helps to cultivate an "ownership" attitude. Thus if faculty members feel that they assist in the governing of their colleges then they are more likely to devote their full attention and energies to the college's mission and functions.

References:

Anderson, R.E., (1983) *Finance and Effectiveness: A Study of College Environments*. New York: Columbia University .

Baldridge, V.J., et al., (1978) *Institutional Climates and Faculty Morale.* Policy making and Effective Leadership. San Francisco, CA: Jossey-Bass.

Rice, E.R. and Austin, A.E., (1988) *High Faculty Morale.* Change.

II. STUDENT SERVICES.

RESEARCH FINDING: Students who most need academic assistance tend least to seek it.

COMMENTS: Repeated studies in urban and suburban college settings demonstrate that students who seek help, where support services are provided, are the ones who consider themselves to be least in need of such help. For example, where extra help in laboratory settings is provided in the area of reading, writing and math skills improvement, those students who rated their abilities highest in these areas were the ones who sought help most often. Students who rated themselves as in need of help in these areas sought it least.

Students who seek help most also have higher GPA's and express greater satisfaction with their progress toward their educational and career goals.

REFERENCES:

Friedlander, J. *Clark County Community College Students: Highlights from a Survey of their Backgrounds, Activities, Ratings of Skills, Use of Support Services, and Educational Attainments.* ERIC DOCUMENT ED 201 373.

Friedlander, J. (ed.) (1981) Science Education for Women and Minorities in an Urban Community College. Los Angeles, CA.: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges, University of California, Los Angeles.

RESEARCH FINDING: Rather than waiting until the end of the semester to notify students of their success in courses, a program involving faculty in Mid-term evaluation provides students with information about their realistic completion of courses, improves G.P.A. and retention rates.

COMMENTS: Several Community Colleges have developed programs to alert students of their programs in courses mid-semester by means of a computerized program which provides faculty with the opportunity to answer inform students about their performance, whether it is satisfactory or unsatisfactory and on the student's attendance in class.

The information from faculty is then combined with other student data such as credit load, previous academic performance at the college, native language, age, basic skills test scores, etc. The result is that personalized printed reports are sent to each student enrolled at the college. These letters are personalized in that there are many different messages written depending on the specific course and student characteristics. T he program selects the appropriate message according to programming decisions. The possible combinations of the messages included in the student's letters exceed the number of students even at large urban campuses.

This system was evaluated to determine if it was effective in improving student progress. While one of the goals was to improve the term grade point average, the result between their two groups , those receiving the mid-term warning and those not was that there was a significantly higher term grade point average for those receiving the warning. This was true for the student categories of new and continuing students, and for all three ethnic groups that were studied. . The greatest difference between the two groups was for black students.

It was also significant that students who were given notice about their performance during the middle of the term dropped more courses than those who received no written message from the college. This kind of information helped them to set realistic goals for themselves when they were not performing adequately. They also found that mean term GPA and cumulative GPA were higher for the experimental groups.

The results found an interaction between a student's enrollment status (full or part-time) and ethnic category for term credits dropped. For example, Newly enrolled students and non-hispanic blacks dropped credits much more than others during the term.

REFERENCES:

Anandam, Kamala, Effectiveness of a Computerized Academic Alert System on Student Performance. Miami, FL: Miami-Dade Community College, Division of Computer-based Instructional Development and Research. JC 840 358

Armes, Nancy, Ed., Guidelines for the Development of Computerized Student Information Systems. Laguna Hills, CA: League for Innovation in the Community College, October 1984.
ERIC DOCUMENT 250 021 (JC 840 544)

Cherne, Ferne Student Tracking System, San Antonio College. San Antonio, Texas ERIC DOCUMENT ED 271 059 (HE 019 440)

Friedlander, Jack Innovative Approaches to Delivering Academic Assistance to Students. Los Angeles, Center for the Study of Community Colleges. ERIC DOCUMENT ED 220 172 (JC 820 436) September 1982.

Friedlander, Jack "Delivering Academic Assistance: Exemplary Approaches," Journal of Developmental and Remedial Education, V. 7 n 3 p 13-51 Spring 1984. ERIC DOCUMENT EJ 298 492 (JC 503 467)

RESEARCH FINDING: Grade Point Average and Retention increase for students who attend orientation courses proportionately higher than for those students who did not attend.

COMMENTS: Research on community college student grades and enrollment patterns has found that community colleges are following the pattern of many residential liberal arts colleges and universities in offering optional or required Orientation programs or courses with the result being positive for student grades and re-enrollment. Campuses have explored several models for Orientation to a community college.

1. 10 week orientation courses taken for non-credit involved counselors attempting to help students with their adjustment to college through educational, career and personal development and introduce students to the resources and services available to them on the campus. This initial phase is often initiated as optional and students were encouraged to attend.

2. A second model involves colleges having all freshman or new students required to attend the program. This required students to attend a one-credit 15-week orientation course which had a similar focus as the previous model except that it was required.

3. A third model has been to develop a series of one hour, noncredit study skills courses (CSS) which were related to the introductory content courses and taught by those faculty members for the purpose of teaching skills such as note-taking, textbook mastery, exam preparation and test-taking techniques. They found a 77% retention rate the second semester and 56% after two semesters for those students enrolling in CSS. Grades for "C" or higher were also received by 64% of the students after completing this study skills orientation.

4. The fourth model is least desirable but is described by practitioners as better than nothing in that it is a last-minute on-hour information session immediately before registration.

The results of this research included the following findings:

1. The average GPA and re-enrollment rate for students who attended the optional course five or more times were significantly higher than those students who didn't attend this course.
2. Attendance at the required course had a positive effect on students' GPA and retention rates.

3. The average GPA and re-enrollment rates of students who attended the optional course were higher than those for the required course and the dropout rate was proportionately lower.

Orientation at the community college may be even more important than for other types of colleges and universities because of the vast majority of students are commuters who live off campus and have few contacts on campus. Though orientation may be a desirable goal for community colleges a 1985 study of California Community Colleges found that less than half of the colleges had no orientation as a part of the admissions process. Research on orientation to college has found that it helps students to connect with other people and services on campus. This includes establishing close friendships with other students which is especially crucial in the first month of enrollment, becoming aware of student organizations, cultural activities, meeting faculty and counselors.

REFERENCES:

Brinkerhoff, David B.; Sullivan, Patrick E., "Concerns of New Students: A Pretest-Posttest Evaluation of Orientation," Journal of College Student Personnel; v 23 n5 p. 384-89 Sep. 1982.

Donnangelo, Frank P. ,Santa Raita, Emilio D., The Effects of Two College Orientation Courses upon the Academic Performance and Retention of Entering Freshman ED 232 747 (JC 830 390)

Kangas, Jon Academic Standards and Matriculation: A Summary of Practices in California Community Colleges. A LARC Publication, San Jose City College, 1985.

Martinez, Alyce C. and Sedlacek, William E., A Comparison of the Characteristics and attitudes of Freshman and transfer students attending different orientation programs at the University of Maryland. ED 217 874.

Upcraft, M. Lee, Finney, Joni E. and Peter Garland, *"Orientation: A Context,"* New Directions for Student Services. no. 25. San Francisco: Jossey-Bass, March 1984. p. 5-24.

Weeks, Ann A., CSS One-Hour Content-Correlated Courses ERIC DOCUMENT ED 283 543 (JC 870 282). March 1987, Dutchess Community College, Poughkeepsie, N.Y.

RESEARCH FINDING: Students' attitudes toward Math and the estimate of their own ability are the major determinants of success in developmental math classes.

COMMENT: Math Learning is one of the most important skills in college, because is is the basis for many other disciplines. Repeated research indicates that "you can if you think you can." There is a significant relationship between the student's attitude toward math and success in the course. If a student has a positive attitude toward math, and perceives him or herself as being able to accomplish the task, the student will be more successful.

This suggests that it might be useful for teachers to spend more time increasing students' confidence levels, perhaps starting with ample practice in already known concepts and gradually introducing new materials in small steps.

REFERENCES:

Cohen, A.M., and Brawer, F.B., The Collegiate Function of Community Colleges. San Francisco: Jossey-Bass, Inc. p. 123.

Elderveld, P.J., (1983) *Factors related to Success and Failure in Developmental Mathematics in the Community College.* Community/Junior College Quarterly of Research and Practice. *No. 7, No. 9 (January-March) p. 161-174.*

Frerichs, A.H., and Eldersveld, P.J., *Predicting Successful and Unsuccessful Developmental Mathematics Students in Community Colleges.* ERIC DOCUMENT No. ED 202 507.

Goldston, R., (1983) *Math 100 Survey, Fall 1982.* Lindcroft, N.J., Brookdale Community College. ERIC DOCUMENT No. 237 146.

RESEARCH FINDING: There is a direct correlation between many of the students' placement test scores for reading and writing and their performance in English composition classes.

COMMENTS:

In studies conducted by various Community Colleges across the nation student scores on various assessment tests for reading and writing are used to place students in English Composition classes. In addition to these standardized tests some colleges also require submission of a piece of writing for holistic grading which were compared to their final courses grades in freshman English Composition (English 101). Other variables that were included in the comparison were student age and sex. The results are that there was a direct correlation between many of the students' scores and their subsequent performance in class. They also found however that the predictive validity of the tests was imperfect in that there were student's who did well in class despite low scores and vice versa. Their conclusions were the following:

1. The tests results can serve as catalysts for student success.
2. The testing process can be an impetus for high school achievement;
3. a significant number of students who failed the course did so for reasons other than an ability problem.
4. Students who do well in class despite low scores often do so because of the attitude and involvement of the instructor;
5. the feedback component of the testing process plays a critical part in motivating students.

REFERENCES:

Davis, Dwight (1985) *The Relationship Between Basic Skills Test Scores and Grades in College-Level Courses at Miami-Dade Community College,"*

Kangas, J. A., (1985) *Academic Standards and Matriculation: A Summary of Practices in California Community Colleges Part I.* San Jose: Learning Assessment Retention Consortium of the California Community Colleges, ERIC Document (JC 860 343)

Loucks, S., (1985) *"Diagnostic Testing: How Reliable in Determining Student Success within the Composition Class?"* ERIC DOCUMENT ED 273 321 (JC 860 473) Shoreline Community College,Seattle, Wash.

McLeod, M. W., (1986) *"The Measure of Quality in Two-Year Colleges."* Community College Review. V 13 n3 p 14-20 Winter 1986 ERIC Document Ej 330258 (JC 504082)

Richards, W., *The Effectiveness of New Student Basic Skills Assessment in Colorado Community Colleges.* ERIC Document ED 275 351 (JC 860 529)

Tripp, J. D. and Todd, A. H., *"Occupational Education Research Project: A Model for Evaluation of Placement Testing in the North Carolina Community College System,"* Charlotte, NC: Central Piedmont Community College. ERIC Document ED 252661 CE 040413

Research Finding: **The students' assessment of their ability in specific academic areas is the most accurate predictor of their achievement in those areas.**

Comment: Studies have shown that students who take more courses in a subject area are more likely to know more about that area than students who take fewer courses in that same area. These studies have also shown that students are able to realisticly assess their own ability in subject areas. These student self-assessments correlated with students' actual knowledge in the same subject areas.

It has been known for some time that attitude scores can be used as predictors of academic achievement, particularly in the attitudes of students towards mathematics. Self-concept has been found to be important as an educational outcome and as a moderator of achievement. Individual expectations and self-selected criteria for success mediates between academic self-concept and school achievement.

References:

Cohen, A. M. and Brawer, F. B. (1987) *The Collegiate Function of Community Colleges.* Jossey-Bass: San Francisco.

Easton, J. Q. (1983) "Affective Responses of Community College Students to Self-Selected Criteria of Success." (JC 830 192)

Eldersveld, P. and Baughman, D. (1984) "Attitudes and Student Perceptions: Their Measure and Relationship to Performance in Elementary Algebra, Intermediate Algebra, College Algebra and Technical Mathematics." (JC 860 071)

Riley, M. (1984) "The Community College General Academic Assessment: Combined Districts, 1983-84." (JC 840 432)

III. ENROLLMENT MANAGEMENT

RESEARCH FINDING: Effective academic advising assists in student retention.

COMMENT:
Providing an academic advisory system may be one means of increasing retention of students. Properly administered academic advisement programs can assist students in exploring their life goals, program and course choice, and scheduling. It has been found that students remain in college if they achievement grades commensurate with their abilities, if they are committed to a career goal, and if they develop a positive attitude about the institution.

Some researchers attribute persistence in college to students' integration into a social system of college and their congruency with the prevailing value patterns of college. Others find that students are influenced by both formal and informal non-teaching contacts with faculty in deciding whether to persist or withdraw from an institution. Finally, the quality and impact of student-faculty relationships has been found to be more important to students' decisions to persist or withdraw from school than the quality and impact of students' peer relations.

The most successful advising systems include these characteristics:

* a clear distinction between academic advising and course scheduling.
* academic advisors who need with advisees at least once during the quarter other than at registration times.
* academic advisors who are faculty members and who are genuinely interested in advisement.
* institutional support of the faculty in this role by ensuring reasonable work loads, conducting in-service training, providing handbooks and other institutional documents, and recognizing the role and contribution of the advisers.
* academic advisement that is provided in a number of ways since no universal delivery system operates best for all students.
* academic advisement that serves to develop students' educational and career goals, thereby reducing attrition; and
* systematic evaluation of the system of academic advising on a regular basis and correction of identified problems.

REFERENCES:

Abel, J. (1980). *Academic Advising: Goals and a Delivery System.* Journal of College Student Personnel. Vol. 21, p. 151-154.

Astin, A.W. (1975) Preventing Students from Dropping Out. San Francisco: Jossey-Bass.

Beal, P.E. and Noel, L. (1980). What works in Student Retention. Iowa City, IA.: American College Testing Program and Boulder, CO.: National Center for Higher Education Management Systems.

Crockett, D.S. (1978). *Academic Advising: Cornerstone of Student Retention.* In L. Noel (Ed.), New Directions for Student Services: Reducing the Dropout Rate. San Francisco: Jossey-Bass.

Houpt, A. (1985). *Academic Advising in the Community College.* Current Issues for the Community College: Essays by Fellows in the Mid-Career Fellowship Program at Princeton University. ERIC DOCUMENT EJ 265 904.

Kazazes, B.A. (1982). Academic Advising for Retention Purposes. Jamestown, N.C.: Guilford Community College. ERIC DOCUMENT EJ 284 612.

Palmer, J. *Sources and information: Counseling and academic advisement.* New Directions for Community Colleges. Vol. 11, No. 3, p. 121-132. ERIC DOCUMENT EJ 290 206.

RESEARCH FINDING: The degree of individual attention to beginning students by the career center counselors matches students' satisfaction with the educational institution.

COMMENTS:
Career information and services that is provided to new community college students when they first arrive at the college has a positive result in retention. The personalized contact makes the relationship between college and student less threatening, alleviates the problems and fears experienced by new students in a new environment, and increases learning.

Mentoring by faculty and peers assists new students in study skills and habits. One on one contact with someone who cares raises student self-esteem and grade levels.

REFERENCES:

Meeting Career Needs: A Multiple Approach. Career Planning and Placement Staff. (1982) College Park, MD., The University of Maryland.

Project COMPASS (Center for Occupational Management, Placement and Systematic Services.) Flint, MI., Genessee Intermediate School District.

Armstrong, Jan (1984) New Choices for the Displaced Homemaker in Vocational Education. Tallahassee, FL., Miami-Dade Community College.

Carvell, Fred, (1980) Options and Opportunities: A Community College's Educator's Guidebook for Nontraditional Vocational Program Improvement. Los Angeles, CA.: California Community Colleges.

Sparks, Linda J. (1984) Career Advancement Training: A Project to Provide Career Information and Services to Women Interested in training for Non-Traditional Vocational/Technical Occupations. Tallahassee, FL., Daytona Bech Community College.

Research Finding : **A mentoring relationship, whether negative or positive, can be crucial in the career development of community college presidents.**

Comment: While mentoring as a teacher-student relationship has long been studied and found to be an overwhelmingly benefical component of the learning process, it has also been shown to be beneficial in peer relationships. Mentoring has been found to perform four major functions: modeling, facilitating, teaching and encouraging. Modeling by a mentor, allows a protégé to observe and learn by example. Mentors facilitate by making introductions and easing the way for the new president. Mentors teach by actually instructing the novice on the how-to's of the job. Finally, mentors encourage the new president by their very presence and advice.

Even informal mentoring arrangements are effective. They allow for the opportunity for learning, feedback from the mentor, visibility in the organization, and access to the mentor's network. Mentor-protégé relationships have been proven to help the protégé learn new technical skills, become socialized in the organization, and develop career planning skills.

Negative mentoring, that is, modeling which is not positive, is actually positive as those actions teach the protégé what not to do. The mentoring behavior muliplies itself as former protégés become themselves mentors to the next generation of presidents. In general there are no evident drawbacks to a mentor-protégé relationship within the college presidents' ranks, in fact the results are beneficial to career development.

References:

Green, M. F. (1988) *Leaders for a New Era.* American Council on Education: New York.

Kram, K. E. (1983) "Phases of the Mentor Relationship." *Academy of Management Journal.* Vol. 26, pp. 608-625.

Moore, K. M. (1984) "The Role of Mentors in Developing Leaders for Academe." In Rosenbach, W. E. and Taylor, R. L. (Eds.). *Contempory Issues in Leadership.* Westview Press: Boulder, pp. 209-222.

Thomas, T. K. (1985) "Mentoring in the Career Development of Illinois Community College Presidents." (JC 860 534)

RESEARCH FINDING: Articulation between High Schools and Community Colleges benefit students to become better prepared to attend college, increase retention rates in both institutions and easier transfer from high school to college.

COMMENTS: Successful Articulation programs benefit students, faculty, individual institutions, student services staff, the community and industry and departmental programs.

1. Enrollment and Retention: Articulation benefits students by encouraging enrollment and retention in both the high school and community college programs, reduces the drop out rate and provides students with incentives to continue training at the next level.

2. Career and Educational Exploration: to have a realistic picture of what is expected within education and how that fits into the real world., and define career goals.

3. Curriculum and Credit: allows students to receive college credit or advanced placement for articulated courses, helps students to better prepare for the college level curriculum and eliminates course work duplication.

4. Secondary school instructors benefit by being provided with first hand information and experiences with community college faculty and programs, and the same experience for community college instructors with secondary programs and faculty. The 1987 revision of the California Master Plan asks the Community Colleges Board of Governors to "establish a pilot program ...to encourage an enhanced role for ..faculty in serving the public schools."[1] This recommendation by the Master Plan has been followed up by the Board of Governors

5. Both institutions benefit by cooperating to pool resources and facilities to assist students in the articulated areas of curriculum, such as high school students taking an advanced course at the community college that isn't offered at the high school due to insufficient resources, personnel or student demand.

6. Student Services staff at both the high school and community college are provided with current information about programs, curriculum, transfer and enrollment procedures, and provides assessment, placement, orientation and counseling to ease the transition from high school to community college.

7. Reduces the overall cost of education by providing additional resources available through cooperation, provides opportunity for business and industry to be involved in development and evaluation of programs.

REFERENCES:

---

[1] Improving Articulation Between High Schools and Colleges, The Academic Senate, California Community Colleges, April 1988 (Draft), p. 2.

"Partnerships with Public Schools," Bunker Hill Community Coll, Boston, MA. ERIC Document ED 284 622 (JC 870 352)

"Improving Articulation between High Schools and Colleges," (1988). The Academic Senate, California Community Colleges, (Draft).

Articulation: Guidelines for Development of a High School Agreement. Maricopa County Community College District. (ED 272 255)

Articulated Programs Between High Schools and Community Colleges in Maryland. Maryland State Board for Community Colleges. ED 255 280.

Elmquist, Cheryle, Building The Bridge For Better Education: A Report on Articulation California Community Colleges/Secondary Schools. Sacramento, CA: Chancellor's Office, California Community Colleges, December 1987 (236 pages)

Fadale, L.V.M., and others. Articulation in Secondary and Postsecondary Occupation Education: Final Report. 72 pp. (ED 269 067)

Mertes, Barbara F., Building New Partnerships: California's Secondary Schools and the Community Colleges. Sacramento, CA: California Association of Community Colleges, May 1986.

RESEARCH FINDING: Community colleges that employ recruitment and business-like marketing strategies attract and retain more students.

COMMENTS:
Business-like marketing strategies should be used to develop enrollment strategies at community colleges. Studies of marketing practices and their success rates show that the first step in any recruitment campaign must be marketing research to identify the college's perceived image in the community and among the local potential student population. Then strategies can be developed to provide instruction that fits the community's educational preferences, time schedules, and need for easy access.

Some of these techniques include:

* for working adults, colleges could provide needed courses for skills-upgrading or for job advancement through partnership agreements with employers.
* for High School or Middle School students, or for students from disadvantaged backgrounds there should be special scheduling of courses with content developed such as summer workshops and special camps.
* for homemakers, senior citizens or employed adults, special workshops and courses or seminars in off-campus sites may be more successful.

Successful marketing and retention activities have been implemented by Community College Districts in several states.

REFERENCES:

Atwood-Canter, Collene. (1985) Marketing and Public Relations Needs Assessment for Glendale Community College. Glendale, AZ.: Glendale Community College. ERIC DOCUMENT ED 278 443.

Duvall, Jose (1986). Recruitment of Students at the Community College. Princeton, N.J., Mid-Career Fellowship Program. ERIC DOCUMENT ED 284 604.

Piland, W.E., (1984) *Beyond Needs Assessments: Marketing as Change Agent.* Community/Junior College Quarterly of Research and Practice. Vol. 8, No. 1-4, pp. 93-102. ERIC DOCUMENT EJ 312 412.

Puyear, Don, (Ed.) The "Ins and Outs" of Marketing and Retention in Virginia's Community Colleges: Exemplary Marketing and Retention Practices in the Virginia Community College System. Vol. 1 and 2.

Richmond, VA.: Virginia State Dept. of Community Colleges. ERIC DOCUMENT ED 283 558.

Ranking, Gary. (1986) *The Impact of Enrollment Research on Marketing Decision Making and Class Offerings.* New Directions for Community Colleges. Vol. 14, No. 4, p. 27-33.

RESEARCH FINDING: Exposure to a private college educational experience in the summer improves transfer rates from the community college.

COMMENTS:

Private colleges and universities have initiated programs to introduce community and junior college students to private options for transfer through a summer school program. These program's goals include:

> "(1) identify community college students who, judging by their aptitude and interest, could complete a bachelor's degree, but whose backgrounds contained no experience of such educational settings;
> (2) develop up to five liberal arts courses, which would be team-taught by faculty from [both institutions] , would meet the curricular credit requirements of both schools, and would make academic demands equivalent of those of regular private college courses. (3) develop adequate support services including peer counseling;
> (4) develop funding to cover students' attendance costs; and
> (5) test the program's effectiveness in order to encourage replications in other settings.

These programs resulted in nearly 100% of the students completing the summer program, overall grade point averages among the group were higher than those of regular college enrollees and a follow-up found that all participants were either already attending or planning to attend a four-year institution.

An innovative articulation with both private and public institutions is known as dual admissions and involves articulation with the community college. This system operates even in pluralistic and decentralized state higher education systems and with historically Black private colleges belonging to the United Negro College Fund. This program has helped both community colleges and the four year institutions to strengthen educational opportunities, prevent unnecessary duplication of educational programs, improve relations between the various segments of higher education and still be able to preserve the plurality and diversity of the public and private institutions while benefiting students by helping them to chart out their educational career while still in high school.

Private colleges have been found receptive to the notion of articulation with community colleges for a number of reasons, the major one being that their enrollments are often more tenuous and their budgets are tuition driven, making them more interested in assisting students to enroll and transfer from community colleges.

REFERENCES:

Copeland, Scott A., University of Puget Sound American Association of Colleges/Mellon Foundation Transfer Student Project: 1985-86 Report. ERIC DOCUMENT ED 273 332 JC 860 488.

Ford, Jerry "Promoting Advising and Course Articulation between a University and Community Colleges," NACADA Journal, V6 N2 p 93-98 September 1986. ERIC DOCUMENT EJ 345 682 (HE 521 636)

Johnson, Colton, The Vassar Summer Program for Community College Students ERIC DOCUMENT ED 282 593 (JC 870 220) April 22, 1987.

Woodbury, Kenneth B., Jr. "Articulation and Dual Admissions," New Directions for Community Colleges, No. 61 San Francisco: Jossey-Bass, Spring 1988.

RESEARCH FINDING: Minority student transfer rates improve when intervention programs are implemented at the college.

COMMENTS:
For most minority students the community college is the first point of entry into higher education and unfortunately the last. Only a small percent of minority students transfer and later graduate from four-year colleges and universities. Community Colleges that have instituted intervention programs for retention and transfer of their minority students have begun to increase the transfer rates of these students.

A review of these programs focusing on retention and transfer of minority students suggests that attention must be given to:

* Transfer policies that guarantee places in four-year colleges for two-year graduates must be initiated by state policy makers.
* Institutional research focusing on student assessment, placement, and outcomes must become an integral part of the college's transfer program.
* Student data should be communicated to four-year receiver colleges so that such colleges can identify and recruit students eligible for transfer.
* Community college faculty should periodically review and update transfer course curricula.
* Students should be encouraged to take lower division courses at four-year colleges while enrolled at two-year colleges.
* Community colleges should promote student mentoring by peers, faculty, counselors, and prominent community members to motivate students and reinforce academic values.

REFERENCES:

Donovan, R.A. (1987) Transfer: Making it Work. Washington, D.C.: American Association of Community and Junior Colleges.

Urban Community College Transfer Opportunities Programs. (1987) Los Angeles, University of California, ERIC Clearinghouse for Community Colleges, ERIC DIGEST.

"Minorities in Urban Community Colleges: Tomorrow's Students Today," Report of the Urban Community Colleges Commission. (1986) Washington, D.C.: American Association of Community and Junior Colleges.

Richardson, R.C., and Bender, L.W. (1987) Fostering Minority Access and Achievement in Higher Education. San Francisco: Jossey-Bass.

RESEARCH FINDING: Bachelor degree completion rates are increased where community colleges make special provision for students who are in academic difficulty at the four year college or university.

COMMENTS:
Studies of reverse transfer students enrolled in community colleges reveal that this group, although generally only 15% of the student population, has higher GPAS and greater rates of completion of programs. Students transferring from a four-year institution to a Community College do so for a variety of reasons.

* bachelor's degree graduates transfer down to obtain vocational training.
* those without a degree transfer either because of academic difficulty , to take remedial courses in basic skills, or because of financial difficulties.

Several community colleges in the U.S. have examined reverse transfer students in their overall student population. These colleges have initiated programs that recruited students in academic probation at the senior institution,m and document their successes in completion their degree objectives after a period of study at the community college. All of these students were referred to the program by the senior institution because of dismissal because of low GPAs. At Kingsborough Community College after only two semesters students had improved from 1.87 GPA to 2.5 and 80% of the 240 participants had earned college degrees or were still actively working towards them.

Student surveys revealed that relatively small classes, special counseling and greater access to tutorial assistance were the most important reasons for their academic improvement. From the perspective of the senior institution, the University of Illinois found that over 61% of their students in academic difficulty who transferred to a community college later returned to successfully complete their degree.

REFERENCES:

Counting the reverse Transfer Students (1985) ERIC DIGEST. Los Angeles, CA.: University of California, ERIC Clearinghouse for Junior Colleges.

Grafton, C.L. and Roy, D.D., (1980) The "Second-Time Around" Community College Student: Assessment of Reverse Transfer Student Performance in a University Setting. Boston, MA.: paper presented at the Annual Meeting of the American Educational Research Association. ERIC DOCUMENT ED 184 620.

Mitchell, G.N., (1984) The Reverse, Lateral Transfer and First Time Community College Student: A Comparative Study. ERIC DOCUMENT ED 245 748.

Swedler, J.A.,(1983) *Reverse Transfers who Return to a University: An Analysis of Their Progress.* Community/Junior College Quarterly of Research and Practice. Vol. 7, No. 2, p. 131-37.

Winchell, Anne. (1987) New START Program: Second Year Report. Brooklyn, N.Y.: Kingsborough Community College. ERIC DOCUMENT ED 284 624.

RESEARCH FINDING: Students who receive AA/AS degrees before transferring to senior institutions achieve higher GPAs and have higher BA completion rates than students who transfer without an a.a. or a.s. degree.

COMMENTS:
Studies show that students transferring from community colleges to four-year colleges or universities have an equal to or slightly higher senior year GPA than students originally starting at these senior institutions. Miami-Dade Community College research demonstrated that 46.14 % of the community college transfer students had a GPA of 3.0 or higher, while 45.49% of the native students at the senior institutions had the same GPA range. Further, transferring community college students with an associate degree have a higher senior year GPA than those students transferring without these degrees. According to a Maryland Community Colleges study, between 60 and 69% of the transferring graduates earn a 3.0 or better at senior institutions as compared to 51 to 63% of the transferring non-graduates earning the same GPA.

Community College students with an associate degree have a higher bachelor's degree completion rate than transferring non-graduates. Based on records of students transferring to senior institutions in the fall of 1979, the Illinois Community College Board follow-up study revealed that 67% of the students with associate degrees earned a bachelor's degree while only 48% of those without the associate degree completed the bachelor's degree.

Thus, it is apparent that the Associate degree attainment provides community college transfer students with a structure to support their continuance and success in higher education. Therefore it is critical that community college faculty and counselors advise students to complete an associate degree prior to transfer.

REFERENCES:
Illinois Community College Board Transfer Study: A Five-Year Study of Students Transferring from Illinois Two-Year Colleges to Illinois Senior Colleges/Universities in the Fall of 1979. (1986) Springfield, IL.: Illinois Community College Board. ERIC DOCUMENT ED 270 148.

Behrendt, R.L. (1981) Follow-up Study Comparisons: 1974 and 1976 Entrants and 1980 Graduates. Annapolis, MD.: Hagerstown Junior College and Maryland Community Colleges Research Group. ERIC DOCUMENT ED 212 336.

Bragg, A.K., (1982) Fall 1979 Transfer Study Report 3: Second Year Persistence and Achievement. Springfield, IL.: Illinois Community College Board. ERIC DOCUMENT ED 230 228.

Cohen, A.M. and Brawer, F.B. (1987) The Collegiate Function of Community Colleges. San Francisco, CA.: Jossey-Bass.

Rouche, J.E. and Baker, G.A. (1987) Access and Excellence: The Open-Door College. Washington, D.C., The Community College Press.

IV. ADMINISTRATION

RESEARCH FINDING: Formative evaluation is a key component in applying state funding formulations.

Comments: Formative evaluation is defined as measuring progress as it occurs. It is a successful process for state decision-makers to employ while selecting or revising an allocation approach and it establishes a framework to address policy questions.

Three suggestive criteria for establishing this framework area:

* Technical Expertise: Does the funding formula measure, weigh, identify or qualify?

* Two-way Feedback: Does the process of applying the formula encourage and facilitate participation and communication with a view on institutional needs and state priorities between the legislature, governor, coordinating agency, and local institutions?

* Values and Issues Clarification: To what extent does the allocation process highlight the value choice and the situation involved in any choice?

By using this analytical framework decision-makers can assess policy issues focused on four categories: diverse mission of the communion college: quality outcomes, and fair share; access, equity, and afire share: efficiency and enrollment linkage.

The principles of formative evaluation can enhance decision-making in allocations to the colleges by revealing what works in the community colleges.

REFERENCES:

Brinkman, P.T. (1984) *Formula Budgeting: The Fourth Decade Responding to New Realities in Funding.* San Francisco: Jossey-Bass.

Fonte, R.W., (1987) *Community College Formula Funding: A Policy Analysis Framework.* Community College Review. Vol 15. No. 2.

McClintock, D.L., (1980) Formula Budgeting: An Approach to Facilities Funding. Washington, D.C., Association of Physical Plant Administrators of Universities and Colleges.

Millers, T.L. (1963) *State Budgeting for Higher Education: The Use of Formulas and Cost Analysis.* Unpublished doctoral dissertation, University of Michigan.

Research Finding: **Where a college president can develop and lead an effective team approach to the governance of the college, a more successful and positive environment is created.**

Comments: College presidents have wide span of responsibilities and constituencies. The president, in order to lead the institution, must be an accomplished generalist, with a broad understanding of many issues and an in-depth technical knowledge of very few. Therefore the president must rely on others for information and direction. Without an effective team approach, organizational vitality is not possible.

The membership of a "presidential team" or presidential cabinet can vary depending on the size and complexity of the college but should include line officers who report directly to the president. In order to have an effective team, you must have two-way communication, trust, humor and members who are willing to submerge ego for the greater good.

Although the president cannot perform all his/her duties alone, it is also important that as "team leader" he/she be a person that has a vision for the institution and is able to get others to accept and embrace the vision. The best team leaders, to be effective, must be able to clarify purposes, work cooperatively, and exemplify moral and intellectual leadership.

References:

Green, M. E. (1988) *Leaders for a New Era: Strategies for Higher Education.* American Council on Education: New York.

Harvard University Committee on Governance. (1971) *The Organization and Functions of the Governing Boards and the President's Office: Discussion Memorandum.* Harvard University: Cambridge, Mass.

Mortimer, K. P. and McConnell, T. R. (1982) *Sharing Authority Effectively.* Jossey-Bass: San Francisco.

Research Finding: **In the areas of personnel, student life, and educational programs, the trustees prefer to confirm the decisions made by the college staff.**

Comment: In order to maintain an orderly and productive relationship between the board of trustees and the president, it is important that board members be informed on all issues. It is especially crucial that trustees be allowed to exercise their authority in their primary areas of responsibility, those areas being: the college's finances, non-faculty wage scales, physical plant maintenance, new construction and external affairs.

Most college presidents have found that a good working relationship with their board of trustees contributes greatly to successful completion of their duties. Allowing the board to exercise their authority in their particular areas of mangement leads to the development of this good working relationship and concurrently the board can then allow the president to discharge his/her duties without interference.

References:

Baldridge, J. V.(Ed.)(1971) *Academic Governance.* McCutchan Publishing: Berkeley.

Carnegie Commission of Higher Education. (1973) *Governance of Higher Education-Six Priority Problems.* McGraw-Hill Book Company: New York.

Vaughan, G. B. (1986) *The Community College Presidency.* American Council on Education: New York.

Research Finding: **Where individuals on Boards of Trustees are prepared for their positions with a formal orientation process a more unified board with better knowledge of the college's goals and objectives is achieved.**

Comment: Many board members assume their positions with little or no knowledge of community college governance or the specific goals and objectives of the individual college. Orientation programs (provided by trustee associations for general education and/or by the college president or the board itself for more specific education) allow for better prepared trustees, able to more effectively discharge their duties. These programs can be varied and include association workshops, board retreats, one-on-one meetings with various key college administrators.

Benefits accrued through an orientation program for trustees include better informed trustees, clearer expectations, a more united board and the establishment of a foundation for a good working relationship with the college president.

References:

Fredrick, R. W. (1973) "Presidents-Trustees and the Comprehensive Two-Year College." Cornell Institute for Research and Development in Occupational Education. (ED 092 205)

Newton, W. T. (1985) "Trustee Participation in Professional Activities." In G. F. Petty (Ed.), *New Directions for Community Colleges #51.* Jossey-Bass: San Francisco.

Read, J. W. (1985-86) "The Board Retreat-An Opportunity for Listening, Learning and Understanding." *Trustee Quarterly*, Vol. 10, No. 1, pp. 32-35.

Vaughan, G. B. (1986) *The Community College Presidency.* American Council on Education: New York.

Research Finding : **Where both the Board of Trustees and the President are provided with clear expectations and are routinely and systematically evaluated, better performance, role definition and unity of purpose are achieved.**

Comment: Clearly defined position responsibilities and expectations followed by a policy of evaluation at predetermined intervals provides for role clarification, appropriate feedback and performance improvement. Evaluation should be undertaken only when the criteria are clearly stated and understood by all the participants. Successful evaluations hinge on the participants having known and agreed to their prescribed job functions as well as to the evaluation mechanism.

Establishment of a prearraigned evaluation schedule avoids the demands, pitfalls and inherent pressures of performing an evaluation in a crisis situation. A thorough evaluation process should include appraisals by superior and subordinate administrators. Since boards of trustees are usually at the top of the administrative chain, they should hire an outside consultant to help evaluate the board as a whole, as well as individually.

References:

Carnegie Commission of Higher Education. (1973) *Governance of Higher Education-Six Priority Problems.* McGraw-Hill Book Company: New York.

Charles, S. F. (1984-85) "Board Evaluation." *Trustee Quarterly,* Vol. 9, No.1, pp. 15-22.

Dressel, P. L. (1981) *Administrative Leadership.* Jossey-Bass: San Francisco.

Nestor, H. M. (1983-84) "Trustees and Presidents- The Winning Team."*Trustee Quarterly,* Vol. 8, No. 1, pp. 21-26.

Seitz, J. E. (1979) "Evaluating Your President Objectively: A Message To Trustees." (ED 191 524)

Stauffer, R. H. (1982) "The President's Perspective on Board Evaluation." Paper presented at 62nd Annual Convention of the American Association of Community and Junior Colleges. (ED 215 749)

Tatum, J. B. (1985) "Active Trusteeship for A Changing Era." In G. F. Petty (Ed.), *New Directions for Community Colleges #51.* Jossey-Bass: San Francisco.

Research Findings: **Productive and working relationships between the Board of Trustees and the President are maximized where there is mutual respect, confidence, trust and good communication.**

Comment: Productive relationships (those that allow the President to manage the college properly and without controversy) can only develop between the Board and the President in an atmosphere where issues can be freely discussed and explored. Unless all the individuals agree to maintain an open, honest relationship, it is only a matter of time before the relationship deteriorates into non-productivity.

The Board must be aware of the needs of the students and of the community at large. For the student information, the Board must rely heavily on the President. On the other hand the President needs to know what the community expects and wants. For the community attitudes information, the President must rely on the Board. This exchange of information can only take place if trust and candor exist between the parties.

Some of the behaviors that encourage mutual understanding include: the ability to ask questions of one another, not leaking stories or issues prematurely to the press or others, making responsibilities clear, listening to everyone's opinion. In summary, most Presidents credit open relationships with their Boards as a major contributing factor in the success in managing the institution. Presidents and Boards cannot view themselves as independent from each other if the institution is to prosper.

References:

Crews, J. M. (1985) "Authority and Responsibility in Board/President Performance." *Trustee Quarterly,* Vol. 9, No. 4, pp. 5-8.

King, M. and Breuder, R. L. (1977) "President-Trustee Relationships: Meeting the Challenge of Leadership." *AACJC.*

Meardy, W. H. (1977) "Working Relationships Between Presidents and Trustees" in Proceedings of the First Annual Governor's Workshop for Community College Trustees.

Nestor, H. M. (1983-84) "Trustees and Presidents- The Winning Team." *Trustee Quarterly,* Vol. 8, No. 1, pp. 21-26.

Pray, F. C. (1975) "A New Look at Community College Boards of Trustees and Presidents and Their Relationships." *AACJC.*

Richburg, J. R. (1986) "A Message To New Trustees: Trustee/President Relationships." *Trustee Quarterly,* Vol. 10, No. 4, pp. 28-31.

Vaughan, G. B. (1986) *The Community College Presidency.* American Council on Education, New York.

V. CURRICULUM & INSTRUCTION

RESEARCH FINDING: Immigrant students with very limited English proficiency are more likely to complete a program of study if they are given vocational training, job search guidance and are taught English as a second language simultaneously.

COMMENTS: Project BEST (Building Energy Systems Technology) was implemented by Oakton Community College as one of the most carefully structured programs combined English as a Second Language (ESL) instruction with vocational training for immigrant students. It has proved that greater achievement can be expected in English Skills when the language is taught within the context of an occupational field that promises immediate employment.

Students participated in a fifteen week, tuition free program that provided hands-on instruction in heating and air-conditioning service, bilingual tutoring in English and in their native language (Polish and Spanish), and instruction in vocational English as a Second Language (VESL). They were also prepared in job-seeking and job-retraining skills, and were given job placement assistance as well as personal and career counseling.

Of the 250 applicants, 61 were selected for the program and 55 actually began the training. Forty two students completed the program and 64% were employed in heating/air-conditioning or in related fields, although no study had been done to predict employment changes in this occupation.

Similar programs have been enacted in Portland Community College for Indochinese students, and in Fairfax County Department of Manpower Services in VESL for Southeast Asian refugees. Guidelines for similar programs have been developed by the Chinatown Resources Development Center in San Francisco, the Chicago Vocational English Training Program (VELT), and several studies and guidelines have been developed by the Office of Educational Research and Improvement of the Department of Education, Washington, D.C.

REFERENCES:

Promising Programs and Practices: Vocational Education for Limited-English Proficient Students. (1985) San Francisco, CA.: Chinatown Resources Development Center. ERIC DOCUMENT ED 276 807.

Becker, Aliza (Ed.) (1986). *An Employer Needs Assessment.* Passage Vol. 2, No. 2, p. 56-61.

Derge, William and Kudirka, Joi. (1986). Development of a VESL Curriculum for Urban Industries. Anaheim, CA.: Paper presented at the Annual Meeting of the Teachers of English to Speakers of Other Languages. ERIC DOCUMENT 271 955.

Egbert, Marie. (1985) *Building Bridge: Vocational Educators and Developmental Education. TECHNIQUES.* Lifelong Learning. Vol. 8, no. 8, p. 29-30. ERIC DOCUMENT ED 272 659.

Friedenberg, J.E. and Lopez-Valadez, J. *LEP Students: A Growing Special Population..* *Vocational Education Journal* Vol. 62 No. 2, p. 27-29. ERIC DOCUMENT ED 348 701.

Pankratz, David and Friedenberg, Joan. (1987) Project BEST Final Report. Des Plaines, IL.: Oakton Community College. ERIC DOCUMENT ED 284 625.

Rae, Ann. (1986) *An Experimental Vocational Course in ESL.* ELT Journal Vol. 40, No. 3, p. 205-11. ERIC DOCUMENT EJ 338 956.

Smith, N.E. (1986). Teaching Job-Related English as a Second Language. Revised Edition. Washington, D.C.: Office of Vocational and Adult Education. ERIC DOCUMENT ED 269 640.

RESEARCH FINDING: Great teaching predicates the success rate of the student. Three Characteristics of a Good teacher are knowledge, communication and authenticity and together they help to move the student from absorbing information to application of knowledge.

COMMENTS:

Competence requires insights, wisdom and compassion in trying to solve new and complicated problems. Education, whether it is general or specialized, should be blended during life. It has been said that "A student who can weave his technology into the fabric of society can claim to have a liberal education; a student who cannot weave his technology into the fabric of society cannot claim even to be a good technologist."[1]

A significant challenge is to bring students to the excitement and satisfaction from study and involvement. Students must find value in the subject to experience excellence in learning.

REFERENCES:

Boyer, E.L. (1987) Toward School-College Collaboration. Washington, D.C., National Education Association.

Hickman, C.R., and Silva, M.A., (1984) Creating Excellence. New York, N.Y. New American Library, p. 135.

Parnell, D. (1985) The Neglected Majority. Washington, D.C.,: Community College Press, p. 149.

Wright, D.L., (1986) Teaching the Introductory-Level Course: A Special Challenge. Columbia, TN.; National Council for Staff, Program and Organizational Development. p. 143.

[1] Boyer, E.L. (1987) Toward School-College Collaboration. Washington, D.C., National Education Association, p. 7.

RESEARCH FINDING: "Writing across the curriculum programs" have a longer lasting effect when the English Faculty continue to collaborate with the faculty in other disciplines after adoption of the program.

COMMENTS:
Most "Writing Across the Curriculum" programs follow a common implementation plan: the inspired English faculty develops a series of workshops where they or invited speakers guide participating faculty from other disciplines through the steps needed to develop writing assignments applicable to the difference subjects, and demonstrate techniques for evaluating students' written assignments for content and English structure. Often, after the first series of workshops and after the writing lab has been opened to all students, there is little or no follow-up to determine the effectiveness of the new writing assignments.

The most successful applications have been those where the English faculty maintains a close contact with instructors from other disciplines through a variety of techniques:

* mentoring two other instructors;
* pairing classes so that assignments can be used for both classes;
* opening their classes to guest lecturers from other disciplines.
* allowing their students to receive an overview of all areas of the curriculum.
* training of special tutors who are prepared to assist students with their writing assignments for classes other than English Composition.

In all cases, "Writing Across the Curriculum" programs are most successful when English faculty remain in active collaboration with their counterparts in other disciplines who have agreed to include more demanding writing assignments in their classes, and who will evaluate them for form as well as content.

REFERENCES:

Booher, S.C., (1985) A Report on the Tutorial Outreach Model for Reading and Writing across the Curriculum at Los Medanos College. Pittsburg, CA.: Los Medanos College. ERIC DOCUMENT No. 221 252.

Bertch, Julie. *Writing for Learning in the Community College.* Cedar Rapids, IA., Paper presented at the "Models for Excellence Conference" ERIC DOCUMENT ED 256 458.

Forman, Janis, (1980) *Notes toward Writing across the Curriculum: Some Collaborative Efforts.* Journal of Basic Writing, V. 2, No. 4, p. 12-21.

Morgan, Lorraine, et al. (1987) *Pushing the Write Button: Writing-Across-the Curriculum*. Atlanta, GA., Paper presented at the Annual Meeting of the Conference on College Composition and Communication. ERIC DOCUMENT ED 280 028.

Walter, J.A., (1984) *Paired Classes: Write to Learn and Learn to Write:* Kalamazoo, MI., Annual Meeting of the Community College Humanities Association. ERIC DOCUMENT ED 248 933.

RESEARCH FINDING: In teaching an abstract subject such as algebra, success rates are higher when teachers provide more structure.

COMMENTS; An analysis of the factors which affect completion rates in Algebra showed that students who were provided with a general framework of ideas, concepts, and skills, including vocabulary, were able to grasp algebraic topics which are usually abstract in content and approach. Textbooks which gave more structure and a higher mastery rate resulted in a rise in completion rates, since students were better able to understand each concept before most to the text.

Factors considered were:

* whether classes were day or evening
* mode of instruction
* part or full-time instructor
* student placement scores
* class size
* individual instructors
* content being student when student withdrew.

REFERENCES:

An Evaluative study of the Student Completion Rate for Math 1403 (a,b,c,). (1984) Fort Worth, TX., Tarrant County Junior College. ERIC DOCUMENT ED 248 911.

Rotman, J.W., *Readiness and Preparation for Beginning Algebra.* ERIC DOCUMENT ED 270 149.

RESEARCH FINDING: Students learn more in economics classes when their instructors have higher levels of attainment in the discipline.

COMMENTS:

In a study of Economics teachers and students in two year colleges, there is a definite relationship between the level of student learning and the level of educational attainment of the instructor. On a measure of economics learning, "The Test of Understanding in College Economics," students who had teachers with the Ph.D. degrees achieved higher scores than students whose teachers held a Masters degree.

Masters level instructors used more films, overhead projectors, more course objectives, term papers, magazines, newspapers, weekly quizzes, peer tutoring, self-paced instruction, etc. On the other hand, doctoral level instructors depend more on lectures and texts which are not as innovative or valued as helping students learn and retain information, their students scores were consistently higher.

REFERENCES:

Barr, S.Z. (1980) Research and Practice in Introductory Principles in Economics at Two-Year Colleges.. Towson, MD.: Council on Economic Education in Maryland, Towson State University, 1980.

Barr, S.Z. and Carr, G.D., (1979) "Influences of Teaching Methods and Personality on Junior College Students in Macroeconomic Principles," The Journal of Economic Education. Vol. X, No. 2, pp. 62-65.

Dawson, G.G., (1980) Research on Economic Education in Two-Year Colleges. Old Westbury, N.Y.: Empire State College Center for Business and Economic Education.

Decker, R. L., (1975) "The Demand for Economics Ph.D.'s in Community Colleges," Journal of Economics Education. Vol. VI, No. 2. p. 127-128. ERIC DOCUMENT ED 190 189.

Kim, P.Y. (1975) An Evaluation of Two-Year College Student Achievement on the Test of Understanding in Personal Economics. Rock Island, IL.: Augustana College, 1975.

Weidenaar, D.J. and Dodson, J.A., (1971) The Effectiveness of Economics Instruction in Two-Year Colleges. Lafayette, IN.: Purdue University.

RESEARCH FINDING: A positive psychological climate of instruction helps high-risk students in the community college to succeed.

COMMENTS:
Much of the recent literature on helping high-risk students focuses on the psychological climate of the instruction. Creating a positive psychological climate can be accomplished by means of three strategies:

* building student involvement
* fostering a successful orientation
* employing proven techniques for teaching adults

A teacher can build involvement with students in many ways. The following are the of the most important.

*know your student's names
* keep in touch with the meaning of the classroom experience (i.e., empathy - a teacher who can interpret the classroom experience from their students' points of view - hear what the student is actually saying as if through the students' ears)
* begin your course with affect, then go on to cognitive development (i.e., you may be able to cover more subject matter if you instill a feeling of acceptance and support in students before beginning actual course work)
* Share your subject matter in a personal way with your students
* meet with administrators to discuss what you're doing to cause learning.

Many students who come to community colleges have learned to think of themselves as failures in academic settings. Our task is to teach them strategies that will help them negotiate academic courses more successfully at the same time that we help them develop a view of themselves as successful people.

* convey an honest regard for students as persons who can and will achieve.
* assess the reading level of your textbooks.
* Create a checklist of possible situational deterrents to learning.

With the average age of students in many community colleges at about 30 years of age, it is imperative that we make use of what we know of andragogy, or adult learning theory.

* Use appropriate means to increase class participation
* Vary teaching methods and activities
* Teach students the skills of self-directed learning

* Show students the relationship between what you do each day and the course objectives

REFERENCES:

Aspy, D. and Roebuck, F., (1977) Kids Don't Learn from People They Don't Like. Amherst, MA., Human Resource Development Press.

Knowles, M., (1975) Self-Directed Learning. New York, N.Y., Association Press.

Millers, M., *Retaining Adults: New Educational Designs for a New Clientele.* New Directions for Student Services. Vol. 3, pp. 47-55.

Rogers, C. (1961) On Becoming a Person. Boston, MA.: Houghton Mifflin Co.

Rosenthal, R. and Jacobson, L. (1968) Pygmalion in the Classroom: Teacher Expectations and Pupil's Intellectual Ability. New York: Holt, Rinehart and Winston.

Roueche, J. and Watkins, K., *Increasing Teaching Effectiveness.* Community College Frontiers. Vol. 8 No. 2, p. 14-17. ERIC DOCUMENT EJ 225 936.

Tinto, V., *Dropout from Higher Education: A Theoretical Synthesis of Recent Research.* Review of Educational Research Vol. 45, No. 1, pp. 89-125.

RESEARCH FINDING: Technical vocabulary is more readily learned where students are taught awareness of words and context clueS.

COMMENT:
Awareness of words is a critical factor to comprehension and learning. Teachers should create a general awareness of words and their relationships as a prerequisite to instruction in specific vocabulary skills. Research suggests the need for connecting words to the various contexts in which they might occur. The following method is appropriate for accomplishing such instruction:

* select a key word
* brainstorming as many related words as possible
* categorizing the related words
* preparing a diagram which shows word relations
* optionally selecting a word from the map to serve as a core of a new map

Context clues is another critical factor to learning. Students should be made to be aware that context clues are efficient and powerful tools for determining the meanings of unfamiliar words. In most situations, readers can apply for knowledge of the context surrounding an unfamiliar word to determine its meaning. Context clues may be more effective in specialized subjects and occupational settings in which expository materials are prevalent. Writers of technically oriented textbooks and reference materials commonly employ devices which increase the value of context in determining the meaning of words.

Research recommended these devices to enhance the value of context as a tool for vocabulary development.

REFERENCES:

Anderson, R.C., and Freebody, P. (1979) Vocabulary Knowledge and Learning. Urbana-Champaign, University of Illinois: Reading Education Report No. 11

Dale, E. , O'Rourke, J., and Bamman, H.A. Technical of Teaching Vocabulary Menlo Park, CA.: Benjamin/Cummings Publishing.

Deighton, L.C. (1959) Vocabulary Development in the Classroom. New York: Bureau of Publications, Teachers College, Columbia University.

Johnson, D.D., *Expanding vocabulary through classification.* In J.F. Baumann and Johnson, D.D. (eds.) Reading Instruction for beginning teachers: A practical guide. Minneapolis, MN.: Burgess.

Timothy, R.R., Alden, J.M., and Stories, R.L., Occupational Literacy Education. International Reading Association, Inc. ERIC DOCUMENT NO 270 728.

RESEARCH FINDING: successful teaching methods in basic skills areas demand clarity in instruction and the minute observation of students' responses.

COMMENT:
A short, clear, grammatically perfect message is much preferred. The best advice to teachers in occupationally related settings is to focus on making sure the message is clearly understood by the student. Several precautions can be taken to assure clear instruction:

* prepare your students by helping them to association what you are going to say with what they have already known. Tell them how the instructions you are giving are related to what you asked them to do yesterday. Establish a context for your information.
* Use environmental clues to aid your students in attending and understanding. Equipment, pictures and diagrams enhance the listening and understanding ability of students.
*Be attentive to nonverbal and verbal signs of inattention and/or confusion on the part of your students. Students responses such as 'uh-huh' or 'yes' are not evidence of attention or understanding, especially when accompanied by vacant or puzzled facial expressions.
* When your students seem to be inattentive and confused, restate your message in different terms.
* Observe yourself as you give information or instructions. Be alert to actions or mannerisms which might be distracting or misleading.
* Be clear in your use of context and environmental clues.

Fortunately for teachers, oral language allows for reinforcement of information. The trick is to focus on making sure the message is clear and students are receiving it.

REFERENCES:

Robinson, H.A. (1978). Teaching Reading and Study Strategies: The Content Areas. Boston: Allyn and Bacon, second edition.

Stitcht, T.B. (1982). Basic Skills in Defense. Alexandria, VA.: Human Resources Research Organization.

Timothy, R.R., Alden, J.M., and Storie, R.L. (1986) Occupational Literacy Education. International Reading Association, Inc. ERIC DOCUMENT ED 270 728.

RESEARCH FINDING: Students learn mechanical skills best if they read materials with an emphasis on graphic media and short paragraphs.

COMMENT:
Occupational reading materials require competency in dealing with special visual and organizational factors. One important characteristic of occupational reading materials is the high frequency with which graphic aids (figures, diagrams, charts, tables and pictures) appear. The use of tables to convey important information in a clear and economical way is extensive. Graphics occur in conjunction with and independent of textual information.

Occupational language also requires a language precision and short paragraphs, but not in vernacular language and long paragraphs.

REFERENCES:

Anderson, R.C., and Freebody, P. (1979). Vocabulary Knowledge and Learning. Reading Education Report No. 11. Urbana-Champaign, Il. University of Illinois.

Apple Write II: For E Only. (1982) Cupertino, CA: Apple Computer.

Stephenson, D. and Ward, B.S., (1978) *Strategies for Increasing Reading Comprehension in Vocational Education Class.* Cincinnati, OH. Paper presented at the annual meeting of the Great Lakes Regional Conference of the Institutional Research Association. ERIC DOCUMENT ED 172 153.

Timothy, R.R., Alden, J.M., and Storie, R.L., Occupational Literacy Education. International Reading Association, Inc. ERIC DOCUMENT ED 270 728.

RESEARCH FINDING: Vocational students improve their reading skills more if instructional materials are combined with vocational content.

COMMENT:
It is not enough for a student to be able to read textbooks and other curricular literature, for these may not reflect job-oriented reading requirements. Students must be able to read the literature required to perform the tasks associated with employment. In order to accomplish that, what instructors select for the textbooks should be the job-oriented reading tasks observed in business and industry. Meanwhile, instructors should concentrate on the vocabulary specifically related to the occupational field.

Teachers who are successful at using workbooks with vocational content use instructional strategies like these:

* background and motivation for reading -- through discussion the teachers and students raise an interest level and enhance understanding of the content.
* vocabulary study -- the presentation of words and phrases that may be difficult to pronounce or understand.
* establishing purpose -- providing a purpose for reading through the use of questions.
* reading a selection -- presenting the students with further purpose questions, exercises, or other assigned activities following the reading.
* discussing the lesson -- through discussion after a selection is read, attention is given to the purpose questions that were set up before reading.
* application -- the application of what was read to various situations in the workplace.

This kind of instructional strategy enables a vocational education teacher to focus on content and at the same time strengthen ability in word recognition, vocabulary meaning, comprehension, and study skills.

REFERENCES:
Corman, Louise. (1980) Basic Skill Proficiencies of Secondary Vocational Education Students. Washington, D.C., National Institute of Education, Vocational Study Publication No. 4. ERIC DOCUMENT ED 197 086.

Horne, G.P. (1979) Functional Job Literacy Implications of Instruction. Wellesley, MA.; Commonwealth Center for high Technology/Education. ERIC DOCUMENT 177 515.

Sherell, E.G., (1978) Comparison of Reading Readiness of Vocational-Technical Student and the Success Attained in these Courses. Springfield, MO., Southwest Missouri State University. ERIC DOCUMENT ED 175 997

Shuman, R.B., and Conroy, M.T., *Reading and the Vocational/Industrial Arts Teachers.* Reading Horizons. Vol. 20. ERIC DOCUMENT EJ 221 402.

Stephenson, D. and Ward, B.S., (1978) *Strategies for Increasing Reading Comprehension in Vocational Education Class.* Cincinnati, OH., Great Lakes Regional Conference of the Institutional Research Association. ERIC DOCUMENT ED 172 153.

Thornton, J.L., (1980) Basic Reading Skills and Vocational Education. Columbus, OH., The Ohio State University. National Center for Research in Vocational Education. ERIC DOCUMENT 189 278.

RESEARCH FINDING: Classes of 15 or fewer students allow for individual instruction which reduces attrition and enhances students learning in general education classes.

COMMENT:
Basing his arguments on research on the correlation between class size and students' achievement in elementary and secondary schools, Daniel Thoren argues for the introduction of similar small classes at the community college, where they can help increase retention and bring about greater student success. Cost effectiveness would be maintained by greater completion rates, by the instructors accepting one additional class as part of their regular load, and by increasing enrollment in other classes to 45 students.

Thoren argues that the small class experience should be limited to first year students immediately out of high school. Greater individual attention and a changed teaching pattern would aid to the development of critical thinking, clear communication and establish informed judgment as the expectation of General Education classes.

These arguments are corroborated by findings of Tennessee's Study-Teacher Achievement Ratio Project (STAR), a longitudinal study on experiments with smaller classes being carried out in both Tennessee and Indiana. There is also evidence that students enrolled in remedial math classes showed an increase in negative attitudes toward the subject matter when enrolled in larger classes.

REFERENCES:

Bain, H.P., and Achilles, C.m. (1986) *Interesting Developments on Class Size.* Phi Delta Kappan. V. 67, No. 9, p. 662-65. ERIC DOCUMENT EJ 337 512.

Edgell, J.J., Jr., (1981) Effects of Class Size Upon Aptitude and Attitude of Pre-Algebra Undergraduate Students. ERIC DOCUMENT ED 203 760.

Klein, Karen, (1985)*The Research on Class Size.* Phi Delta Kappan. Vol. 66, no. 8, p. 578-80. ERIC DOCUMENT EJ 316 709.

Sava, S.G., (1986) *Good Questions.* Phi Delta Kappan. Vol. 68, No. 2, p. 130-31. ERIC DOCUMENT EJ 341 175.

Thorn, Daniel. (1987) Reducing Class Size at the Community College. Princeton University, N.J.: Mid-Career Fellowship Program. ERIC DOCUMENT ED 284 605.

RESEARCH FINDING: The more closely the instruction simulates the materials and environment of the workplace, the more readily students learn.

COMMENT:

The quality and quantity of reading in school differs from reading on the job in that the latter:

* requires more time per day than in-school reading
* workers read a wider variety of materials for more specific purposes than do high school students.
* compared to technical school students, workers see reading as more important to success.
* Workers do significantly more applications-oriented reading.

An employee must read in order to carry out the terms of employment which involves instruction, codes, manuals, memoranda, employment notices, and the like. Vocational students usually are able to read textbooks and other curricular materials. However, these students need to practice recognizing and understanding job-oriented reading materials. The reading materials used in occupational programs can reflect the reading requirements of an actual work setting with some adaptation.

REFERENCES:

Mikulecky, L. (1982) *Job Literacy: The Relationship between School Preparation and Workplace Actuality*. Reading Research Quarterly. Vol. 17, p. 400-419.

Thornton, J.L. (1980) Review and Synthesis of Reading in the Post-Secondary Occupational Education. Harrisburg, PA.: Pennsylvania State Department of Education. Bureau of Vocational and Technical Education. ERIC DOCUMENT 194 874.

Timothy, R.R., Alden J.M., and Storie, R.L., (1986) Occupational Literacy Education. International Reading Association, Inc. ERIC DOCUMENT ED 270 728.

ERIC Clearinghouse for Junior Colleges JUL 29 1988